

**TWENTY YEARS ON: HAS THE ECONOMY OF THE COALFIELDS
RECOVERED?**

Christina Beatty, Stephen Fothergill and Ryan Powell

**Centre for Regional Economic and Social Research
Sheffield Hallam University**

March 2005

Summary

Since the end of the miners' strike in March 1985, Britain's coal industry has experienced an unprecedented loss of jobs. Total employment in the industry has fallen from over 220,000 to around 7,000. The number of miners has fallen from 170,000 to 4,000. Only 8 of the 170 pits at the time of the strike remain in operation.

This paper examines the extent to which the economy of the coalfields has recovered from these devastating job losses. It presents new and comprehensive figures on labour market trends among men in each of the English and Welsh coalfields over the whole of the period from 1981 to 2004. Five key observations emerge from this analysis.

First, about 60 per cent of the jobs lost from the coal industry since the early 1980s have now been replaced by new jobs for men in the same areas. This is strong evidence of a recovery, and shows that in practice the coalfields have not entered a 'spiral of decline'. Nevertheless, that still leaves some 90,000 coal jobs still to be replaced.

Second, the pace of recovery appears to be quickening. The first years of the present decade have seen several major regeneration initiatives (such as the English Partnerships National Coalfields Programme) come to fruition at a time of sustained national economic growth. The rate of new job creation in the coalfields has almost doubled, with a higher proportion of the new jobs also going to men.

Third, taking a wider view of the employment problems of the coalfields – for instance to include unemployment inherited from before the pit closures – the extent of recovery looks a little less impressive: only around half of the overall job shortfall for men in the coalfields has so far been eliminated. This figure takes account not only of new job creation but also of the role of out-migration and out-commuting in stabilising local labour markets.

Fourth, claimant unemployment figures, which are currently relatively low in most former coalfields, give a wholly misleading view of the strength of the local labour market. Since the early 1980s, the rise in the number of 'economically inactive' men

of working age in the coalfields has been twice as large as the fall in recorded unemployment. In the English and Welsh coalfields in mid-2004, no fewer than 336,000 adults of working age (201,000 men, 135,000 women) were out of work and claiming incapacity benefits, compared to just 67,000 (50,000 men and 17,000 women) claiming unemployment benefits. The evidence supports the view that in the coalfields, as in some other parts of older industrial Britain, there has been a huge diversion of people with health problems from unemployment to incapacity benefits. Estimates suggest that as many as 100,000 men in the coalfields are currently 'hidden unemployed' in this way.

Fifth, there is considerable diversity of experience among the coalfields. Some of the smaller mining areas in the Midlands, in Leicestershire and Warwickshire for example, now appear to be well on the way to full recovery. The Yorkshire coalfield has been an especially encouraging performer in the last few years, though still has some way to go. In contrast, the large South Wales coalfield in particular has made slow progress in replacing coal job losses and other areas, such as Northumberland, also appear to face continuing severe labour market difficulties.

The paper concludes that if the present impressive rate of job creation can be sustained it will take perhaps another six or seven years to finally replace all the coal job losses by new jobs for men, and perhaps a further five years to wipe out the wider accumulated job shortfall. Some areas, like South Wales, look likely to take rather longer. The progress to date has nevertheless required huge efforts from local authorities, development agencies, central government and the European Union, and to finish the job this support will need to be sustained for some while longer.

Background

In March 1985, Britain's coalminers returned to work after the longest and most bitter industrial dispute in modern times in the UK. They had lost their battle to stop pit closures. The year-long miners' strike was one of the defining events of Margaret Thatcher's premiership.

Over the months and years that followed, the pit closures that the miners had feared did indeed happen. In fact, the closures and job losses were greater than anyone had predicted. At the time of the strike the state-owned UK coal industry employed 171,000 miners at 170 collieries, and had a total workforce (including white-collar staff, workshops, opencast mines etc) of 221,000. Nearly 90 per cent of this workforce was shed during the first ten years after the strike, and job losses have continued on a smaller scale ever since. The now privatised coal industry employs fewer than 7,000 in total, of whom only 4,000 work at the eight remaining collieries¹.

One of the most important features of this job loss is that it has been virtually all concentrated in just a dozen or so areas across Britain. This is inevitable given the nature of mining: coal can only be dug in the places where coal deposits are found. However, in most of these areas coalmining had been the dominant source of employment for men, so the consequences for local labour markets were always going to be serious. In its scale, speed and geographical concentration, the

¹ These are the seven remaining deep mines belonging to UK Coal plc – Kellingley, Maltby and Rossington in Yorkshire, Harworth, Thoresby and Welbeck in Nottinghamshire, and Daw Mill in Warwickshire - plus Tower Colliery in Wales. In addition there are a number of extremely small private mines.

contraction of the UK coal industry is arguably the definitive example of de-industrialisation in Britain or Western Europe.

Twenty years on from the end of the strike, to what extent has the economy of the coalfields recovered? In the intervening years there have been numerous regeneration initiatives in former mining areas, and the UK economy as a whole has experienced a sustained period of economic growth since emerging from the recession of the early 1990s. Has this meant that the economy of the coalfields has bounced back? Or have these areas remained in the doldrums, by-passed by newer forms of economic activity? The honest answer is that until now no-one has really known, at least not in any systematic quantifiable sense. It is this key gap in knowledge that the present paper sets out to address.

Scope of the study

The present paper focuses on the *number of jobs* in the coalfields. We make no apologies for this emphasis. The miners' strike was about jobs, and it was the loss of jobs that so marked the subsequent experience of Britain's mining areas. It is therefore entirely appropriate to document the extent to which the jobs lost from the coal industry have been replaced.

More specifically, the paper focuses on *jobs held by men*. Again we make no apologies. The coal industry was an overwhelmingly male employer. The loss of coal industry employment was therefore primarily a problem for men, so it is appropriate to look at how the male labour market has recovered. At the same time, it is important to recognise that 'male' and 'female' labour markets do not operate entirely independently of each other, so account does needs to be taken of the main interactions in understanding men's experience.

The paper covers the 23 years between *1981 and 2004* - a slightly longer period than the twenty years since the end of the strike. This is a pragmatic. In a previous study, published nearly a decade ago, two of the present authors examined labour market adjustment in the UK coalfields over the period 1981-91 (Beatty and Fothergill 1996). The choice of dates for this earlier study was driven by the availability of fine-grain data from the decennial Census of Population. What we have done in the present study is to extend the core elements of this previous work through initially to 2001, to

take account of new Census data, and then to 2004 using a range of other data sources. It is nevertheless worth noting that the three years leading up to the start of the miners' strike (ie 1981-84) were also ones of substantial job loss from the coal industry – some 50,000 coal jobs disappeared during these years. The inclusion of these earlier years therefore serves to emphasise the scale of the labour market challenge facing coalfield areas.

Finally, the paper covers only the *English and Welsh coalfields*. This leaves out the Scottish coalfields. This is not ideal but has been forced on us by an unusual piece of negligence. At the time of the original 1996 study, the authors discovered that an electronic version of the ward-based Special Workplace Statistics for Scotland from the 1981 Census had 'gone missing' from all the main archives, making it extremely difficult to replicate key parts of the analysis in Scotland. We have not ascertained whether in the intervening years the relevant electronic data has been 'rediscovered'. However, the absence of previous analyses on which to build has meant that for the time being at least the present paper only covers England and Wales. In population terms, the English and Welsh coalfields account for about 90 per cent of the UK total.

The central analysis in the present paper, as in the 1996 study, involves the construction of 'labour market accounts' for the coalfields – for the 1981-2004 period as a whole, for sub-periods, and for each individual coalfield. Labour market accounting is a tried-and-tested method for disaggregating change in local labour markets. Its usefulness lies in the fact that changes in employment and unemployment are not simply and mechanically linked, especially at the local scale. A fall of, say, 1000 in employment does not lead to a corresponding rise of 1000 in unemployment. There are several mediating influences – migration, commuting and changes in labour force participation for example – which mean that in any given area the changes in employment and unemployment are unlikely to be of the same magnitude, or even necessarily in the same direction. It is therefore wrong to assume that because claimant unemployment is now relatively low in most former mining areas there must have been substantial local job generation. The reality of local labour market adjustment is much more complex.

The labour market accounts provide an overview of what has happened in the coalfields. In this paper we then use the information they generate to answer three key questions:

- *To what extent have the jobs lost from the coal industry been replaced by new jobs in the coalfields?* This is the most obvious question of all, but what it ignores is the fact that the coalfields mostly had large-scale unemployment even before the pit closures began in the 1980s. The job of successful regeneration was therefore always a lot larger than just replacing coal job losses. Hence the second question.....
- *To what extent has the overall job shortfall in the coalfields been eliminated?* This involves taking a wider view of the scale of the coalfield employment problem. It also involves looking at a wider range of labour market adjustments, including not only job creation but also out-commuting and out-migration.
- *What is the real level of unemployment in the former coalfields?* This involves looking beyond just the claimant unemployment figures to take account of people who have been diverted onto other benefits or out of the benefits system altogether.

Throughout, our focus is on the labour market as a whole in the coalfields, not on the fate of ex-miners. Many of the older miners who were made redundant in the 1980s and 90s will now have moved beyond state pension age (65). Other ex-miners will have found new jobs. The fate of ex-miners is an important research question in its own right, but the disappearance of mining jobs removed employment opportunities for later generations as well as for the miners themselves, and when an ex-miner finds new work he may do so at the expense of other local residents. The loss of coal jobs was a problem for coalfield communities *as a whole*, and it is the labour market as a whole in the coalfields that we investigate.

Defining the coalfields

There is no single definition of 'the coalfields'. Maps based on geology, historical connections or labour markets at different points in time would all generate subtly different definitions.

For the purpose of the 1996 study, a ward-based map of the British coalfields was developed based on the share of resident men in employment who worked in the coal industry in 1981. The cut-off used was 10 per cent – ie ‘coalfield wards’ were those that met or exceeded this dependence on coal industry employment, though in practice there were also a number of minor adjustments to take account of local circumstances (see Appendix for further details). This definition of the coalfields subsequently became known as the ‘Sheffield Hallam definition’ and was widely adopted, for example in government-funded studies of lottery grants (Gore, Dabinett and Breeze 1999) and educational performance (Gore and Smith 2001). What should be noted about the Sheffield Hallam definition of the coalfields is that it is relatively tight, excluding for example areas with only an historic connection with the coal industry and excluding adjacent urban areas that do not form part of the coalfield itself. The definition is also firmly rooted in the labour market that existed at the start of the 1980s, before the pit closures began in earnest. To overcome boundary changes and allow data to be compared across long periods, the ward-based definition of the coalfields for subsequent years has been matched as closely as possible to the original 1981-based definition.

Figure 1 shows the location of the English and Welsh coalfields, based on the Sheffield Hallam definition. Table 1 shows their current (2001) population. In total, the English and Welsh coalfields are home to just under 4.5 million people. This makes them a substantial chunk of Britain, equivalent in population terms to a typical English region. The Scottish coalfields add a further 0.5 million people, bringing the total to around 5 million. Three of the coalfields listed in Table 1 (Yorkshire, Derbyshire and Nottinghamshire) make up a continuous block, extending from just east of Leeds to near Nottingham, with a population of just under 2 million.

In 1981 the coal industry employed 229,000 men in these English and Welsh coalfield areas. These jobs accounted for almost exactly one-in-four of all the male jobs located in these areas. According to 1981 Census figures, these English and Welsh coalfields already had 160,000 unemployed men even before the main pit closures began.

Figure 1: The English and Welsh coalfields

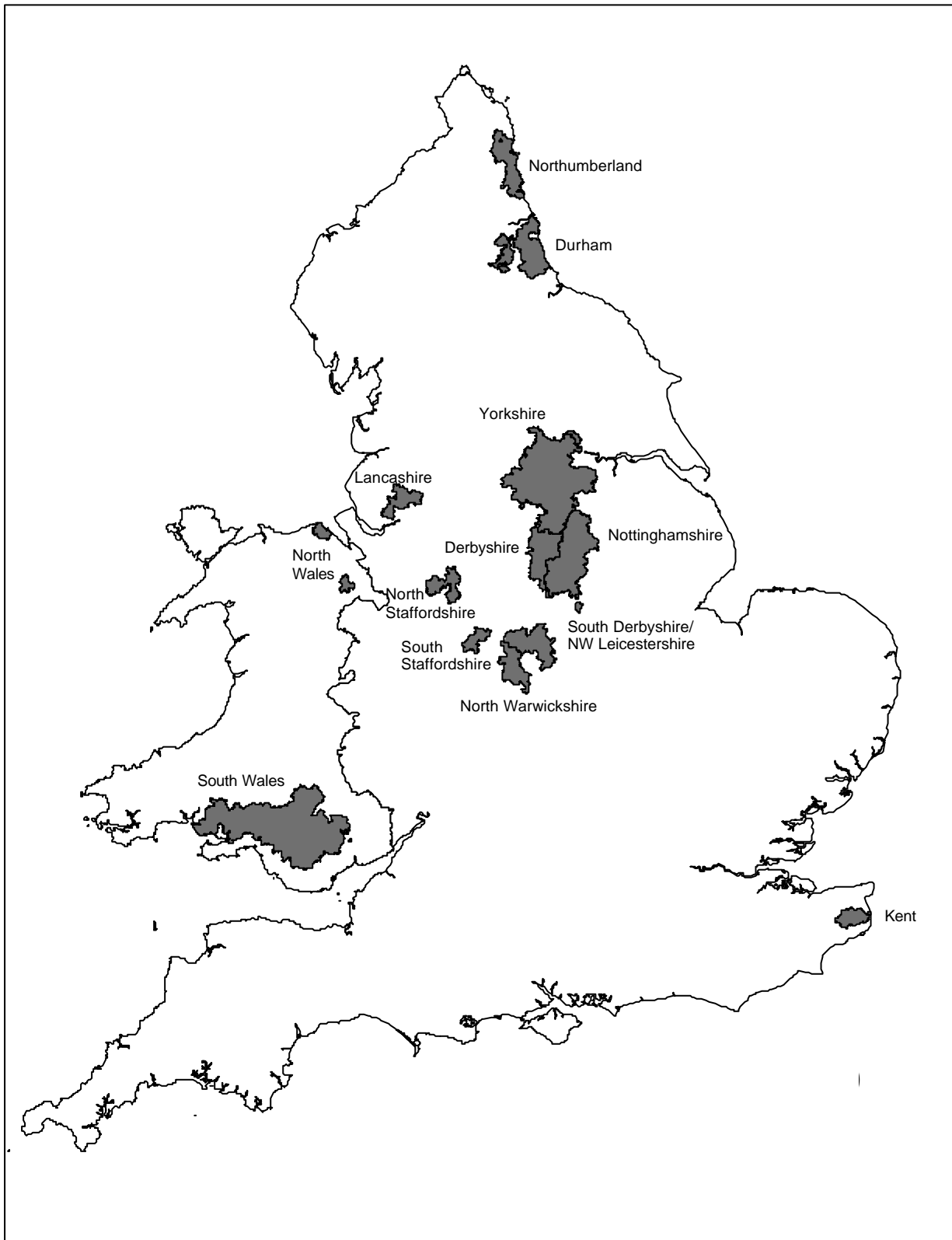


Table 1: The English and Welsh coalfields

	Population, 2001
Yorkshire	1,136,000
South Wales	733,000
Durham	535,000
Nottinghamshire	503,000
Lancashire	365,000
Derbyshire	312,000
North Staffordshire	267,000
North Warwickshire	183,000
S Derbys/NW Leics	142,000
Northumberland	140,000
South Staffordshire	109,000
Kent	39,000
North Wales	24,000
England and Wales coalfields	4,488,000

Source: Census of Population

Table 2 shows the loss of coal industry jobs between 1981 and 2004 in each of these areas. The large Yorkshire coalfield heads the list with the loss of 67,000 male jobs, followed by Nottinghamshire (40,300) and South Wales (27,200). What is striking in this table is that in every English and Welsh coalfield well over 90 per cent of all the coal industry jobs held by men in 1981 disappeared by 2004, and in several areas coal industry employment was eliminated entirely. In most coalfields, these coal job losses accounted for a large proportion (typically 20-35 per cent) of all the jobs held by men in 1981. The exceptions are North Staffordshire and Lancashire, where coalmining took place in highly urbanised areas alongside other industries and where as a consequence the coal job losses accounted for a smaller proportion of total employment.

Table 2 : Job loss in coal 1981-2004

	Male job loss 1981-2004	as % male coal jobs in 1981	as % of all male jobs in area in 1981
Yorkshire	67,000	95	27
Nottinghamshire	40,300	96	35
South Wales	27,200	97	21
Durham	22,800	100	26
Derbyshire	13,700	99	20
Northumberland	10,100	94	32
S Derbys/NW Leics	9,600	99	31
North Staffordshire	8,600	100	13
Lancashire	7,100	100	9
South Staffordshire	5,700	100	27
North Warwickshire	5,500	92	23
Kent	3,200	100	48
North Wales	1,200	100	39
England and Wales coalfields	222,000	97	24

Sources: Census of Population, Coal Authority

Labour market accounts

Labour market accounts disaggregate local labour market trends into a number of separate flows:

NATURAL INCREASE IN THE WORKFORCE – the excess in the number of 16 year olds reaching working age over the number of people reaching state pension age (65 for men, 60 for women) and deaths of working age.

NET MIGRATION – the balance between the number of people of working age moving into an area and the number moving out.

CHANGE IN NET COMMUTING – the change in the balance of commuting flows in and out of an area.

CHANGE IN LABOUR FORCE PARTICIPATION – the change in the proportion of adults of working age who are ‘economically active’ (ie in employment or seeking employment).

CHANGE IN EMPLOYMENT

CHANGE IN RECORDED UNEMPLOYMENT

This approach to local labour markets was first deployed in the UK regional context by the Cambridge Economic Policy Group (1980, 1982). It was successfully applied to the UK’s cities by Begg, Moore and Rhodes (1986) and later by Turok and Edge (1999). In addition to the previous application to the coalfields in the 1996 study, two of the present authors have also assembled labour market accounts for England’s disadvantaged rural areas (Beatty and Fothergill 1997) and Britain’s seaside towns (Beatty and Fothergill 2004a).

One of the advantages of labour market accounts is that all the components are arithmetically related, so it is possible to show how they work together to generate the overall pattern of labour market change. There are a number of different ways in which the accounts can be presented. The one we follow here is as follows:

	Job loss in coal
PLUS	Natural increase in the workforce
PLUS	Net in-migration
PLUS	Increase in net in-commuting
PLUS	Increase in economically active
MINUS	Increase in non-coal jobs
EQUALS	Increase in recorded unemployment

In the context of the coalfields, this arrangement of the accounts is particularly helpful because it exposes how a large loss of jobs from the coal industry has been able to co-exist with often falling recorded unemployment in the same areas. The first five lines of the accounts measure the change in labour supply arising from coal job losses and other labour market trends. The sixth line measures the change in labour demand arising from sectors other than coal. The change in recorded unemployment, in the final line of the accounts, is the difference between the two. In

this formulation of the accounts, any 'hidden unemployment' will be included in the change in the number of economically active men.

Assembling labour market accounts is a formidable task involving the manipulation of large amounts of Census and other data. In the analyses presented here, the use of ward-level data corresponding to the Sheffield Hallam definition of the coalfields is an added complication. An appendix to the paper describes the detailed data sources and methods.

Labour market accounts for working-age men, for the English and Welsh coalfields as a whole between 1981 and 2004, are presented in Table 3. This is a pivotal table in understanding the process of labour market adjustment in the coalfields and therefore justifies being explained at some length.

Table 3 : Labour market accounts for working age men, English and Welsh coalfields 1981-2004

		no.	as % male working age pop. in 1981
	Job loss in coal	222,000	15.9
PLUS	Natural increase in workforce	86,600	6.2
PLUS	Net in-migration	-57,900	-4.1
PLUS	Increase in net in-commuting	-30,700	-2.2
PLUS	Increase in economically active	-162,500	-11.6
MINUS	Increase in non-coal jobs	132,400	9.5
EQUALS	Increase in recorded unemployment	-74,900	-5.4

Sources : see Appendix

The first point to note is that between 1981 and 2004 the very large loss of coal jobs (222,000) co-existed with a substantial reduction in recorded unemployment (nearly 75,000). This is not what might have been expected in areas of acute job loss and at first sight could be taken to indicate exceptionally successful adaptation. The reality is more complex, as the labour market accounts demonstrate.

Over this twenty-three year period, natural increase in the male workforce in the coalfields added a further 86,000 to the excess labour supply caused by the loss of coal jobs. This was partly offset by the loss of 58,000 men of working age through

net out-migration – ie. more men of working age moved out of the coalfields than moved in.

In addition, a net increase in commuting to other areas reduced local labour supply by another 30,000. The coalfields overall have been substantial net exporters of commuters to other areas (such as neighbouring cities) for many years – ie, the number of men and women commuting out exceeds the number commuting in. Gross flows have tended to increase in both directions as local labour markets have become less self-contained. A negative ‘increase in net in-commuting’, such as the one shown in Table 3, represents an increase in the net outward flow.

The really big adjustment in labour supply, and the dominant feature of labour market change in the coalfields, was however a big reduction in economic activity among men of working age. ‘Economically inactive’ men are those who are neither in employment nor recorded as unemployed (in this instance using the Census definitions of ‘unemployment’). These are the working age men who according to official figures have dropped out of the labour market altogether, either out of choice or because circumstances have pushed them out. Between 1981 and 2004 the reduction in male economic activity rates in the coalfields took no fewer than 162,500 working age men out of the local workforce, equivalent to one-in-nine of the entire male population between the ages of 16 and 64. This is a large change, whether viewed in absolute or proportional terms. Later in the paper we take a closer look at these economically inactive men and argue that in fact a substantial number of them could be described as ‘hidden unemployed’. For the moment, the point to note is that over these years the number of men dropping out of the coalfield labour market into ‘economic inactivity’ was more than double the reduction in recorded male unemployment.

Finally, there was an increase of just over 132,000 in the number of non-coal jobs in the coalfields held by men. This figure provides firm evidence that a recovery in the labour market for men in the coalfields is indeed underway.

Table 4 looks at the labour market changes among men in the coalfields over three sub-periods – 1981 to 1991, 1991 to 2001, and 2001 to 2004. Nearly all the figures for the first two sub-periods are taken from the Census of Population, which is comprehensive and mostly reliable. The figures for the 2001-04 period are derived

Table 4 : Labour market accounts for working age men, English and Welsh coalfields by sub-period

		1981-91	1991-01	2001-04
	Job loss in coal	159,400	60,000	2,500
PLUS	Natural increase in workforce	62,100	18,800	5,700
PLUS	Net in-migration	-59,600	-11,200	13,000
PLUS	Increase in net in-commuting	-4,500	-22,800	-3,500
PLUS	Increase in economically active	-84,600	-78,600	700
MINUS	Increase in non-coal jobs	44,900	48,300	39,200
EQUALS	Increase in recorded unemployment	27,800	-82,000	-20,700

Sources : see Appendix

from a wider range of sources and involve a greater degree of estimation. The table reveals at least five important shifts through time.

First, the job loss in coal was front-loaded, with the largest losses in the 1980s and declining losses thereafter.

Second, migration patterns among working-age men have turned around – from substantial net out-migration from the coalfields in the 1980s to modest net in-migration in the latest period. It is tempting to attribute this turn-around to the declining pace of coal job losses and the growing success of regeneration efforts, but it is also important to note that net out-migration from the North more generally (and most coalfield areas are in the North) has ground to a halt in recent years. This owes more to the growth in international in-migration to the South than to any narrowing in regional job opportunities, as a recent analysis has shown (Rowthorn 2004).

Third, the withdrawal of men into economic inactivity in the coalfields, which is such a dominating feature of trends over the whole 1981-2004 period, appears to have come to a halt. In contrast to the earlier periods, there is no evidence of any additional withdrawal between 2001 and 2004.

Fourth, the pace of increase in the number of non-coal male jobs appears to be accelerating. The absolute numbers rather mask this encouraging trend, but in the

Table 5: Male labour market accounts for English and Welsh coalfields, 1981-2004

	job loss in coal	PLUS natural increase in workforce	PLUS net in- migration	PLUS increase in net in- commuting	PLUS increase in economically active	MINUS increase all non coal jobs	EQUALS increase in recorded unemployment
Yorkshire	67,000	24,700	-17,600	5,300	-39,300	55,300	-15,200
Nottinghamshire	40,300	11,600	-9,300	-12,100	-18,000	17,400	-4,900
South Wales	27,200	9,000	-9,400	-9,300	-29,900	5,200	-17,600
Durham	22,800	8,000	-5,900	7,100	-20,700	23,900	-12,500
Derbyshire	13,700	1,300	3,300	-3,300	-10,400	7,800	-3,300
Northumberland	10,100	800	500	-6,900	-5,800	-600	-700
S.Derbyshire/N.W.Leicestershire	9,600	2,500	4,600	-1,400	-3,200	12,900	-800
North Staffordshire	8,600	1,900	-8,700	-11,100	-10,200	-13,600	-6,000
Lancashire	7,100	12,600	-15,300	2,200	-15,100	-100	-8,400
South Staffordshire	5,700	3,900	-200	100	-3,400	7,700	-1,600
North Warwickshire	5,500	9,500	-1,400	400	-4,300	12,900	-3,200
Kent	3,200	600	200	-1,000	-1,200	2,100	-300
North Wales	1,200	200	1,400	-700	-1,000	1,500	-400
England and Wales coalfields	222,000	86,600	-57,900	-30,700	-162,500	132,400	-74,900

Sources : see Appendix

Table 6: Male labour market accounts for English and Welsh coalfields, as a percentage of 1981 male working age population, 1981-2004

	job loss in coal	PLUS natural increase in workforce	PLUS net in- migration	PLUS increase in net in- commuting	PLUS increase in economically active	MINUS increase all non coal jobs	EQUALS increase in recorded unemployment
Yorkshire	19.0	7.0	-5.0	1.5	-11.1	15.7	-4.3
Nottinghamshire	25.7	7.4	-5.9	-7.7	-11.5	11.1	-3.1
South Wales	11.9	3.9	-4.1	-4.1	-13.1	2.3	-7.7
Durham	13.7	4.8	-3.5	4.3	-12.4	14.3	-7.5
Derbyshire	14.4	1.3	3.4	-3.5	-11.0	8.2	-3.5
Northumberland	23.3	1.8	1.2	-15.9	-13.4	-1.4	-1.6
S.Derbyshire/N.W.Leicestershire	24.7	6.4	11.7	-3.6	-8.3	33.0	-2.0
North Staffordshire	9.4	2.1	-9.6	-12.2	-11.2	-14.9	-6.6
Lancashire	5.9	10.4	-12.6	1.8	-12.5	-0.1	-6.9
South Staffordshire	17.7	12.2	-0.7	0.5	-10.5	24.1	-4.9
North Warwickshire	10.5	18.3	-2.8	0.8	-8.2	24.6	-6.1
Kent	29.5	5.5	1.7	-9.5	-10.8	19.4	-2.9
North Wales	18.7	2.6	22.8	-10.6	-15.9	23.9	-6.3
England and Wales coalfields	15.9	6.2	-4.1	-2.2	-11.6	9.5	-5.4

Sources : see Appendix

three years between 2001 and 2004 the number of non-coal jobs held by men in the coalfields increased by almost as much as in either of the previous two decades.

Fifth and finally, the reduction in recorded male unemployment in the coalfields occurred entirely in the two later periods. Even so, it is worth noting that the fall in recorded unemployment among men between 1991 and 2001 (some 82,000) was almost entirely matched by an additional withdrawal into economic inactivity (more than 78,000). Only in the final 2001-04 period is the reduction in recorded unemployment no longer mirrored by rising economic inactivity.

Tables 5 and 6 present labour market accounts for each individual coalfield for the full 1981-2004 period. These reveal a complex picture that it is not appropriate here to describe or attempt to explain. Many of the detailed trends reflect specifically local circumstances, including interactions with neighbouring areas through migration and commuting patterns. The important point is that the experience of individual coalfields has differed and this comes through strongly in assessing, below, the extent to which the coalfields have recovered.

Job replacement

To what extent have the jobs lost from the coal industry been replaced by new jobs in the coalfields? Earlier we said that this is perhaps the most obvious question of all, and the simplest if not necessarily the best measure of the extent to which the economy of the coalfields has recovered.

The labour market accounts, presented earlier in Table 3, provide one answer: between 1981 and 2004, 222,000 male jobs were lost from the coal industry in these areas, and this was offset by an increase of 132,400 in male jobs in other industries and services in the same areas.

Table 7 presents a coalfield by coalfield view. This compares the local job loss in coal with the increase in non-coal employment in the area, in both cases just for men. At this scale the answer is clearly a lot more complex. In five coalfield areas all the jobs lost from the coal industry have been replaced by new jobs for men. Four of these (S Derbys/NW Leics, S Staffs, N Warwicks and N Wales) are relatively small coalfields but the fifth (Durham) is one of the larger ones. At the other extreme, in

Table 7 : Job replacement in the English and Welsh coalfields, 1981-2004

	Male jobs lost in coal	Increase in non-coal jobs held by men	% of coal jobs replaced
Yorkshire	67,000	55,300	83
Nottinghamshire	40,300	17,400	43
South Wales	27,200	5,200	19
Durham	22,800	23,900	100
Derbyshire	13,700	7,800	57
Northumberland	10,100	-600	0
S Derby/NW Leics	9,600	12,900	100
North Staffordshire	8,600	-13,600	0
Lancashire	7,100	-100	0
South Staffordshire	5,700	7,700	100
North Warwickshire	5,500	12,900	100
Kent	3,200	2,100	66
North Wales	1,200	1,400	100

Sources : Census of Population, Coal Authority, Annual Business Inquiry

three coalfields (Northumberland, N Staffs and Lancashire) none of the jobs lost in coal had been replaced by 2004. This is because in these three areas net job losses for men in other industries added to the job losses in coal.

Table 8 looks at the same information from a different angle and shows the number of coal job losses still remaining to be replaced in 2004. These figures show that in all just under 90,000 coal jobs remain to be replaced, or 40 per cent of the total lost from the coal industry between 1981 and 2004. Nottinghamshire and South Wales together account for half the job losses still to be replaced.

There is therefore evidence, on this particular measure, of real forward progress but also of a continuing job still to do. However, at this point three digressions are necessary.

The first concerns the extent to which the new jobs really are adequate replacements for the jobs lost from the coal industry. One view is that the jobs in the mines were well-paid whereas the new sources of employment for men – in new factories, call

Table 8 : Post-1981 male coal job losses still to be replaced

	no
Nottinghamshire	22,900
South Wales	22,000
Yorkshire	11,700
Northumberland	10,100
North Staffordshire	8,600
Lancashire	7,100
Derbyshire	5,900
Kent	1,100
England and Wales coalfields	89,400

Sources : Census of Population, Coal Authority, Annual Business Inquiry

centres, and the service sector – generally compare unfavourably in terms of pay and conditions. So mere numerical replacement of coal jobs may overstate the true extent of recovery. It is certainly true that the coal industry paid good wages for manual labour, though in fairness not always a great deal more than some of the other heavy industries of the past. On the other hand, structural shifts in the labour market in the coalfields and elsewhere should not be overlooked. Manual jobs are in decline but the number of white-collar jobs, including in the public sector, has been increasing and many of these new jobs do offer better terms and conditions than the mining jobs of old. The quality of new jobs for men in the coalfields is a legitimate topic for research, but the presumption should not necessarily be that the new jobs are so much worse than those they are replacing.

The second digression concerns women's jobs. So far we have looked at men in isolation, but that is not how the real-world labour market operates. Although the coal industry was an almost exclusively male employer, in large segments of the labour market men compete with women for the same jobs. Table 9 shows the increase in non-coal jobs in the coalfields, for women as well as men. This shows that the large increase in jobs held by men has been matched by an equally large increase in the number held by women. Overall, non-coal employment in the coalfields grew by 264,000 between 1981 and 2004 – more in fact than the loss of jobs from the coal industry itself.

Table 9 : Increase in non-coal jobs in the English and Welsh coalfields, 1981-2004

	1981-91	1991-01	2001-04	Total 1981-2004
Men	44,900	48,300	39,200	132,400
Women	68,500	47,800	15,600	131,800
Total	113,400	96,100	54,800	264,200
annual rate	11,300	9,600	18,300	11,500
% male	40	50	72	50

Sources : Census of Population, Coal Authority, Annual Business Inquiry

What is especially noticeable is that through time the proportion of new jobs going to men has been increasing – from 40 per cent between 1981 and 1991, to 72 per cent between 2001 and 2004. At first sight this is surprising because the industries and occupations that have shown the strongest employment growth in the UK in recent years have tended to be those where women are especially concentrated. What the figures on male and female employment suggest is that the coalfield labour market may be operating in new ways: whereas ex-miners themselves shunned employment they saw as ‘women’s work’, the generation of men behind them has adopted a more open-minded attitude and begun to fill jobs that once would have been taken by women. If this interpretation is correct it has important implications. First, one of the very long-term effects of coal industry job losses is to squeeze the job opportunities for women in the coalfields, as men begin to compete for and take the same jobs. Second, the increase in the number of jobs for women in the coalfields is opening up job opportunities for men as well.

The final digression concerns the relationship between output and employment. There are no figures available to chart the value of economic output (measured for example by gross value added) at the local scale in the coalfields or elsewhere. The fall in UK coal production – down around 70m tonnes a year since the early 1980s – will by itself have reduced the output of the coalfield economy by between £2.5bn a year (at current coal prices) and £4bn a year (at the prices prevailing in the 1980s). On the other hand, output per head in virtually all sectors of the economy, nationally and locally, has been increasing through time. It is possible to be confident therefore that with male employment in the coalfields clawing its way back towards previous

levels and a big increase in female employment, the total value of output from the coalfield economy will now significantly exceed pre-pit closure levels. In this limited sense, at least, the economy of the coalfields has recovered. But this does not detract from the fact that the key coalfield problem has for at least twenty years been about jobs, and it is in terms of jobs that the true extent of recovery therefore needs to be judged.

The overall job shortfall

To what extent has the overall job shortfall in the coalfields been eliminated? We noted earlier that mere replacement of the jobs lost in the coal industry is not a very good measure of coalfield regeneration. The problem is that the coalfields began to lose coal jobs when they were already affected by large-scale unemployment. Some of this pre-existing unemployment can be traced back to coal job losses in earlier years, but it also reflects the state of the national economy. The year our empirical investigation starts – 1981 - falls in the middle of the deepest recession to hit the UK economy in the second half of the twentieth century. The recession was especially severe in Britain's manufacturing heartlands, including in coalfield areas where major job losses often occurred in the factories brought in by previous rounds of regional policy.

A wider view of the employment shortfall for men in the coalfields involves adding together:

- The job loss in the coal industry
- The pre-existing unemployment in the coalfields
- The natural increase in the local workforce

This last variable – natural increase – is relevant because it measures the extra jobs required just to keep pace with the growth of the local workforce. Offsetting the job shortfall are three factors:

- The increase in non-coal jobs
- Net out-migration
- The increase in net out-commuting

The second and third of these variables are relevant because they represent legitimate ways in which local labour markets adjust to change, for example as places adopt new roles as commuter settlements or shrink in population to reflect a smaller economic base.

Table 10 works through this calculation for men in the English and Welsh coalfields as a whole over the 1981 to 2004 period. This table shows that the overall job shortfall for men in the coalfields (nearly 470,000) was more than double the loss of coal jobs, not least because the coalfields began the period with 160,000 unemployed men. The table also shows that even after the substantial labour market adjustments of the last two decades, more than half the shortfall (nearly 250,000) still remains. The growth in non-coal jobs for men has been the largest factor in the reduction in the shortfall, but out-migration and to a lesser extent out-commuting have contributed as well.

Table 10 : Job shortfall among men in the English and Welsh coalfields, 1981-2004

		no
	Job loss in coal	222,000
PLUS	1981 unemployment	160,000
PLUS	Natural increase in male workforce	86,600
EQUALS	TOTAL JOB SHORTFALL	468,600
MINUS	Increase in non-coal jobs	132,400
MINUS	Net out-migration	57,800
MINUS	Increase in net out-commuting	30,800
EQUALS	REMAINING JOB SHORTFALL	247,600

Sources : see Appendix

Table 11 shows the results of replicating this calculation for each individual coalfield. The share of the shortfall eliminated by 2004, in the second column of the numbers, arguably provides the single best measure of the extent to which the labour market of each area has 'bounced back'. It reveals a diversity of experience, though one that is consistent with casual observation of the economic health of most of the areas. Two small Midlands coalfields (S Derbys/N W Leics and N Warwicks) show the strongest

Table 11 : Job shortfall among men, by coalfield 1981-2004

	Total job shortfall 1981-2004	% eliminated by 2004
Yorkshire	127,800	53
South Wales	68,400	35
Nottinghamshire	65,000	60
Durham	56,400	40
Lancashire	35,200	37
Derbyshire	23,900	33
North Staffordshire	21,300	29
North Warwickshire	21,100	66
Northumberland	15,400	38
S Derbys/NE Leics	14,500	67
South Staffordshire	13,000	60
Kent	4,700	62
North Wales	2,100	32
England and Wales coalfields	468,600	47

Source: Authors' estimates

recovery. We have already noted that in these two areas all the coal job losses have been replaced. At the other end of the spectrum, the large South Wales coalfield is a weak performer on this indicator, as are the Northumberland, Durham and Derbyshire areas and the more urban coalfields of Lancashire and North Staffordshire. The continuing labour market weakness in Durham, where we previously noted that coal job losses have been entirely replaced by new male jobs, is a reflection of other powerful influences on the local labour market (inherited unemployment, commuting patterns etc). Durham illustrates the more general point that mere replacement of coal jobs is not necessarily an indicator of complete recovery.

In practice it is unrealistic to expect the whole of any job shortfall to be eliminated, even in the most favourable circumstances. This is because even in the most prosperous areas there is always residual unemployment as people move between jobs and as a result of skill mismatches. In addition, economic inactivity among

working age men has tended to increase through time irrespective of any surge in hidden unemployment, for example because of voluntary early retirement and because of a long-term trend for the numbers on incapacity benefits to rise even in the most prosperous areas. These labour supply factors impose constraints on the extent to which the job shortfalls identified in our calculations could ever really be removed. In that sense, some of the 'missing' jobs should not really be counted as part of the job shortfall at all. It is impossible to be precise, but if the irreducible job shortfall accounted for 5 per cent of working age men in the coalfields, that would point to a figure of 70-80,000, or about one-third of the remaining shortfall for men identified in the calculations. Looked at from the other direction, that means an extra 175,000 male jobs are still needed in the English and Welsh coalfields.

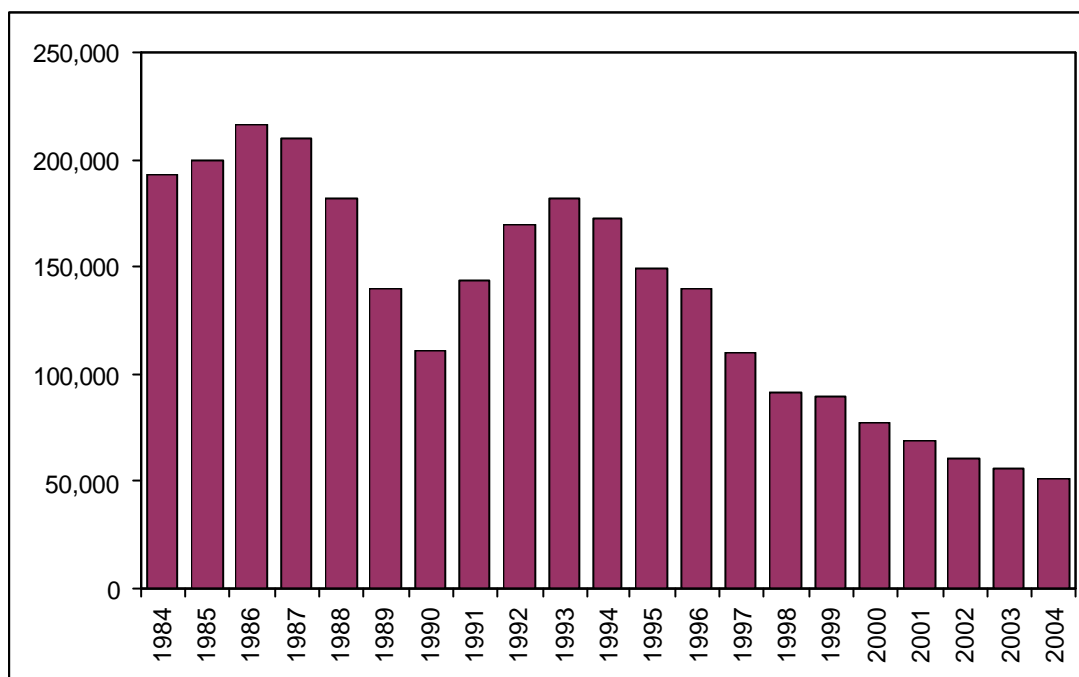
Unemployment

What is the real level of unemployment in the coalfields? One of the striking features at the present time is the relatively low level of claimant unemployment. Figure 2 shows claimant unemployment among men in the English and Welsh coalfields from 1984 (when ward-level figures first became available) until 2004. The key feature is the large reduction, initially in the second half of the 1980s and then again from around 1993. Overall, claimant unemployment among men in the coalfields has fallen by three-quarters from peak levels. The numbers in the coalfields have broadly followed the trend in the UK as a whole, though the rate in the coalfields has always remained a little above the corresponding national figure.

The problem with claimant unemployment data is that it counts only those people who are out-of-work and claiming unemployment-related benefits, principally Jobseeker's Allowance. What the figures fail to include are the unemployed people who have been diverted onto other benefits or out of the benefits system altogether, many of whom are conventionally counted as 'economically inactive'.

Table 12 disaggregates the economic inactivity among men in the coalfields recorded by three successive Censuses of Population. Earlier, we noted that the increase in the number of inactive men represented the single largest labour market adjustment in the coalfields. Table 12 shows that between 1981 and 2001 these men doubled as a proportion of the total male population of working age, to more than one-in-five of all 16-64 year olds. A surge in 'permanent sickness', to nearly one-in-nine of all

Figure 2: Male claimant unemployment in the English and Welsh coalfields, 1984-2004



Figures refer to April each year

Source: NOMIS

Table 12 : Economic inactivity among men in the English and Welsh coalfields

	as % of males aged 16-64		
	1981	1991	2001
Permanently sick	4.9	9.0	10.8
Retired	1.5	3.7	3.1
Students	3.8	3.6	3.7
Looking after family/home)			1.3
Other inactive)	0.5	0.9	
			3.0
All inactive	10.7	17.2	21.9

Source : Census of Population

working age men, represented the largest component of the increase. The number of retired – in this instance ‘early retired’ because all are below state pension age – also increased, though in the 1980s rather than the 1990s. The number of economically inactive students remained broadly stable. The number of ‘other inactive’ increased sharply between 1991 and 2001, though this is probably attributable mainly to the use of the ‘ILO’ unemployment criteria for the first time in the 2001 Census. This had the effect of classifying some people who would have been recorded as ‘unemployed’ in earlier years as ‘inactive’ in 2001 because they failed to meet one or more of the ILO criteria.

In April 2004, claimant unemployment in the English and Welsh coalfields stood at 67,000 (made up of 50,000 men and 17,000 women). Coalfield unemployment on the ILO measure (which counts everyone who is out-of-work, available to start in two weeks, and has looked for work in the last four weeks) was somewhat larger – an estimated 93,000, comprising 58,000 men and 35,000 women. The ILO figures are in theory the government’s preferred measure of unemployment. More importantly, official figures show that in August 2004 no fewer than 336,000 coalfield residents of working age (200,000 men and 136,000 women) were out-of-work and claiming incapacity benefits, mainly Incapacity Benefit itself. Or to put the figures another way, there are five times as many people of working age in the coalfields who are out-of-work and claiming incapacity benefits as there are out-of-work and claiming unemployment benefits. The people claiming unemployment and incapacity benefits are two mutually exclusive groups – it is not possible to claim both benefits at the same time. Most incapacity claimants do not actively look for work, so they also tend to be excluded from the ILO unemployment count.

Table 13 shows the distribution of male incapacity benefit claimants by coalfield. What is noticeable here is that in all but three small Midlands coalfields, these claimants account for 10 per cent or more of all 16-64 year old men. In South Wales, the coalfield with the highest density of incapacity claimants, the proportion reaches nearly one-in-five of all working age men.

The key question concerns the extent to which the very large number of economically inactive men, and of incapacity claimants in particular, hides unemployment. The 1996 study of the coalfields, mentioned earlier, argued that a substantial proportion of the men in the coalfields who are recorded as permanently sick should indeed be regarded as ‘hidden unemployed’. The logic here was not that the benefit claims

were fraudulent or the health problems anything less than real, but that in a genuinely fully-employed economy many of these men would have been in work. This claim has subsequently been the basis of substantial research in the coalfields and elsewhere (see for example Alcock et al 2003). The government itself accepts that, in the right circumstances, many incapacity claimants could hold down jobs.

Table 13 : Male incapacity benefit claimants, August 2004

	no.	as % of working age men
South Wales	44,400	19.3
Durham	27,700	16.2
Lancashire	17,500	14.7
North Staffordshire	12,100	14.1
Northumberland	6,300	14.1
North Wales	1,000	13.0
Yorkshire	46,400	12.8
Derbyshire	12,700	12.7
Nottinghamshire	18,600	11.6
Kent	1,200	10.2
North Warwickshire	6,000	9.9
South Staffordshire	3,300	9.1
S Derbys/NW Leics	3,500	7.5
England and Wales coalfields	200,600	14.0

Sources :DWP and ONS

Since the publication of the 1996 coalfield study, improved methods have been developed to estimate the numbers of incapacity claimants who ‘could reasonably be expected to have been in work in a fully-employed economy’. These methods are based on establishing a ‘benchmark’ for every area that combines:

- The incapacity claimant rates currently prevailing in the parts of southern England at or close to full employment (a group of seven counties to the north, west and south of London)

- The underlying differences in rates of incapacitating ill health between each area and this fully employed part of southern England (using the differences recorded by the 1981 Census, before the figures became badly contaminated by the diversion from unemployment)

In each area, incapacity claimant numbers in excess of this benchmark are judged to represent hidden unemployment.

These methods are explained in full elsewhere (see in particular Beatty and Fothergill 2004b) and the robustness of the resulting estimates has been tested using alternative methods. What we have done here is to apply these methods to the coalfields, using ward-level incapacity claimant data for August 2004 from the Department for Work and Pensions. For each individual coalfield this has involved establishing a benchmark that reflects claimant rates in fully employed parts of Britain and the underlying higher rate of incapacitating ill health in the local area.

Take the example of Yorkshire. In this coalfield, a total of 46,400 men were out-of-work and claiming incapacity benefits in August 2004 – 12.8 per cent of the entire male working age population. The benchmark for this area is 6.5 per cent - the sum of the present-day incapacity claimant rate among men in fully-employed parts of the South (4 per cent) and the difference in the rate of ‘permanent sickness’ between the Yorkshire coalfield and this part of the South recorded in 1981 (2.5 per cent). The difference between the actual claimant rate and the benchmark – 6.3 per cent, equivalent to 23,000 men – is estimated to be a form of hidden unemployment. This calculation takes full account not only of what has already been shown to be possible in the parts of Britain where the local economy is very strong, but also of the fact that incapacitating ill health is more widespread in the Yorkshire coalfield than in the fully-employed parts of the South.

The results of this exercise are presented for the coalfields as a whole in Table 14. This shows that just over 100,000 men in the English and Welsh coalfields are estimated to have been diverted from unemployment onto incapacity benefits. These men represent almost exactly half of the 200,000 men of working age in the coalfields claiming incapacity benefits. The number estimated to be diverted from unemployment to incapacity benefits is double the number of male claimant unemployed in the same areas. Adding this group and the extra ILO unemployed to

Table 14 : Unemployment among men in the English and Welsh coalfields, mid-2004

	no.	as % male working age population
Claimant unemployed	50,300	3.5
Additional ILO unemployed	7,500	0.5
Diverted to incapacity benefits	101,400	7.1
'Real' unemployment	159,200	11.1

Sources : ONS and authors' estimates

claimant unemployment more than triples estimated total unemployment among men².

Table 15 presents the results of the same calculation for each individual coalfield. In all areas, the 'real' level of unemployment is markedly higher than claimant unemployment, reflecting the scale of hidden unemployment especially among incapacity claimants. The inclusion of hidden unemployment also differentiates individual coalfields more sharply. Rather than being tightly clustered with claimant unemployment rates between two and five per cent, the inclusion of hidden unemployment widens the range to 5-13 per cent. South Wales and the two North East coalfields appear especially disadvantaged on this wider measure of unemployment.

Too much reliance should not be placed on the precise figures. The methodology used to estimate hidden unemployment among incapacity claimants is based on a number of assumptions and in practice there will have been changes in the underlying level of incapacitating ill health in different areas. The figures we present are intended to provide broad estimates of the scale of the distortion to conventional unemployment data. Nevertheless, this alternative perspective on unemployment casts the coalfields in a very different light. It suggests that rather than having been

² The definition of 'real' unemployment used in Table 14 (and in Table 15) is slightly narrower than the one used in the 1996 coalfield study and in other published estimates by Beatty-Fothergill team in that it excludes diversions from claimant unemployment into 'early retirement' and onto 'government schemes'. Neither of these additional diversions is now likely to be large given the falling numbers in both groups and the changing nature of most government schemes. However, because of this methodological change the figures presented here should not be compared with earlier estimates of real unemployment for the coalfields or other areas.

Table 15 : Unemployment among men by coalfield, mid-2004

	Claimant unemployment		'Real' unemployment	
	no.	% working age	no.	% working age
South Wales	8,800	3.8	31,100	13.5
Durham	7,500	4.4	22,700	13.3
Northumberland	2,200	4.9	5,900	13.2
Lancashire	4,600	3.8	14,100	11.9
N Staffordshire	2,900	3.4	9,900	11.6
Derbyshire	3,700	3.7	10,900	10.9
Yorkshire	11,900	3.3	36,500	10.1
Nottinghamshire	5,000	3.1	15,800	9.9
North Wales	200	2.0	700	9.1
N Warwickshire	1,500	2.4	5,400	8.9
S Staffordshire	1,000	2.7	2,700	7.5
Kent	300	3.0	800	7.2
S Derbys/NW Leics	700	1.6	2,500	5.4
England and Wales coalfields	50,300	3.5	159,200	11.1

Sources : ONS and authors' estimates

reduced to modest levels, unemployment among men in the coalfields has mostly become hidden from view, above all diverted onto incapacity benefits.

This radically different perspective actually fits well with official data on 'employment rates' – that is, the share of adults of working age who have jobs. The 2001 Census recorded an employment rate among men for Britain as a whole of 74 per cent, and in the South East of England of 80 per cent. By contrast, the average for the coalfields was just 70 per cent. No coalfield was able to match the South East employment rate and only three small Midlands coalfields (S Derbys/N W Leics, N Warwicks and S Staffs) exceeded the national rate. The South Wales coalfield – the worst on our wider measure of unemployment – had a male employment rate of just 64 per cent, ten percentage points behind the national rate and sixteen percentage points behind the South East of England. Differences in male employment rates between areas primarily reflect differences in economic activity rates, which in turn primarily reflect differences in incapacity claimant rates. Our view is that while health factors do play a part, local labour market conditions are the key to understanding the

scale of the disparities. South Wales has an employment rate so far adrift of the South East of England, and an incapacity claimant rate so much higher, primarily because the demand for labour in South Wales is so much weaker.

What we are arguing is that one of the main long-run adjustments to coal job losses has been the diversion onto incapacity benefits. This constitutes a form of hidden unemployment because many of the men claiming these benefits would have been in work in a fully-employed economy. Indeed, prior to the pit closures far fewer men in the coalfield claimed these benefits. Underlying health problems have not radically worsened (indeed, national trends show some gradual improvement), which suggests that at one time far more people with health problems did indeed hold down jobs. But many of these jobs, especially in the coal industry of course, have disappeared. In the competition for the remaining jobs, people with health problems are amongst those who have lost out and the differences in benefit payment rates has created an incentive for them to claim Incapacity Benefit (to which they are entitled on health grounds) rather than Jobseeker's Allowance.

At the same time it is important to acknowledge that this form of hidden unemployment differs in several respects from conventional unemployment. In particular, once on Incapacity Benefit most men and women quickly give up looking for work. They are not therefore part of the pool of active jobseekers from which employers fill vacancies. This has implications for policies to re-engage these individuals with the labour market because although shortfalls in the local demand for labour act as the trigger for rising incapacity benefit numbers, subsequent job creation does not automatically bring the numbers down again. It is the active jobseekers, such as those claiming unemployment benefits, who take up the job opportunities. This is precisely what has happened in the coalfields in recent years: as new jobs have been created, claimant unemployment has fallen but the numbers on incapacity benefits have hardly been dented. To make in-roads in future to the stock of incapacity claimants will require job creation to go hand-in-hand with labour market activation policies. Forcing incapacity claimants to look for work without at the same time ensuring an adequate supply of suitable jobs in the right places is unlikely to succeed. But equally, further job creation without practical support for incapacity claimants to re-enter employment is unlikely to work either.

An assessment

Let us now try to provide an answer to the paper's central question: *has the economy of the coalfields recovered?*

The first and most fundamental point that needs to be made is that the English and Welsh coalfields have not entered a 'spiral of decline'. On the contrary, there is incontrovertible evidence that the labour market in the coalfields is bouncing back from the hammer-blow of coal job losses. This is encouraging, especially as there was never any certainty that this would be the trajectory.

The more difficult issue is the scale of the recovery. The answer on this point varies according to exactly which yardstick is used. In terms of the number of coal jobs replaced by new jobs for men, the coalfields as a whole appear to be about sixty per cent along the way to full recovery. On the other hand, taking a wider view of the employment shortfall (including for example the high inherited level of unemployment) suggests that only about half the job is done. Low claimant unemployment, however, presents a wholly misleading impression of the extent of recovery. In practice there has been a huge diversion of working age men into 'economic inactivity', and in particular onto incapacity benefits. Much of this diversion should be regarded as 'hidden unemployment'.

Looking at these findings as a whole suggests that, as a sweeping generalisation, the economy of the coalfields is perhaps a little over half way towards full recovery. The coalfields have come a long way, but still have a long way to go. An additional 90,000 male jobs would be needed to claw back all the job losses in the coal industry since the early 1980s, and another 50,000 or more to erode the inherited male job shortfall.

The extent to which recovery can be attributed to national economic growth or to interventions to help the coalfields is unclear. In truth, both have probably contributed in major ways, but it would need a further major piece of research to unravel the respective contributions. What is clear is that since the beginning of the present decade the combination of a long period of national growth and the coming-to-fruit of key regeneration measures conceived in the 1990s (the English Partnerships coalfield programme and Enterprise Zone status for example) has accelerated the pace of recovery.

What is also clear is that the experience of individual coalfields has varied a great deal. The contrast between Yorkshire and South Wales is the most striking example. These are the two largest coalfields in terms of population, with 1.1 and 0.7 million people respectively. The whole of the South Wales coalfield and the largest part of the Yorkshire coalfield both presently enjoy EU Objective 1 status and its equivalent Tier 1 status for regional aid from the UK government. Yet here the similarities appear to end. Whereas in Yorkshire there has been a net increase of 55,000 in the number of non-coal jobs held by men since 1981, in South Wales the increase has been only 5,000. The performance of Yorkshire has been particularly impressive in recent years, with non-coal jobs for men up by 30,000 between 2001 and 2004 alone.

The statistical disparity between Yorkshire and South Wales chimes with casual observation. The Yorkshire coalfield, bounded by motorways on all sides and with new road links into its core, is reasonably centrally located in Britain as a whole and was perhaps always a candidate for recovery once the basic building blocks (roads, sites, training etc) had been put in place. There has been major new investment in the Dearne Valley Enterprise Zone in South Yorkshire, along the M62 in West Yorkshire, and on the outskirts of Doncaster, to mention just three examples. Much of this has happened since the late 1990s after substantial preparatory investment. The South Wales coalfield, by contrast, appears to be much more intractable case. Whilst South Wales has a longer history of regeneration initiatives, the difficult terrain of the mining valleys and the greater isolation of many of communities seem never to have proved very attractive to new investment. In so far as development taken place in South Wales in recent years this has often been along the M4 corridor, just off the coalfield itself. As a result, the trajectory of the South Wales valleys has been less one of job replacement and more one of rising out-commuting. In the valleys, employment rates remain low and the real level of unemployment very high.

The statistics for the Durham coalfield tell a different story. In this part of the country new job creation for men has been impressive, to the extent that on our figures all the coal jobs lost since the beginning of the 1980s have been replaced. A new Nissan car factory, and major call centre developments at Doxford Park on the outskirts of Sunderland and in Easington district have been among the flagship investments. But the Durham coalfield is embedded in a region with more widespread employment problems, so as jobs have been created in the former coalfield there has been rising

in-commuting from neighbouring areas. This has reduced the benefit to coalfield residents. One consequence is that a large imbalance in the Durham coalfield labour market still persists, with much of the imbalance hidden away in the very large numbers on incapacity benefits.

The Northumberland coalfield shares the Durham coalfield's continuing and serious labour market imbalance but the dynamics of its local labour market are different. In Northumberland there has been little success in increasing the stock of jobs for men. The consequence has been rising out-commuting, particularly to the neighbouring Tyneside conurbation, and it is this that has kept an already weak labour market from becoming much worse.

The clear success stories are the three small coalfields of the Midlands – South Derbyshire/North West Leicestershire, North Warwickshire, and South Staffordshire. Here the coal job losses have been fully replaced and good progress has been made towards eliminating overall job shortfalls. Local unemployment is now relatively low, even taking a wider view. However, the small scale and central location of these coalfields, and their proximity to areas of prosperity, always meant that regeneration in these areas was never going to be as daunting a task as elsewhere.

So how much longer can full recovery in the coalfields be expected to take? The recent rate of job creation has been impressive – more than 50,000 new jobs in the coalfields between 2001 and 2004, of which more than two-thirds went to men. If this rate of job creation is sustained it will take only another six or seven years to replace all the coal job losses by new jobs for men, and perhaps a further five years to wipe out the wider accumulated job shortfall. With claimant unemployment relatively low in most areas, much of the discernible impact from here on would take the form of lower numbers of economically inactive men, and lower numbers on incapacity benefits in particular. However, individual coalfields where difficulties are entrenched, such as South Wales, could be expected to take rather longer to make a full recovery even with the right measures in place.

Whether recent rates of job creation can be sustained depends a great deal on continuing growth in the national economy. The stability of UK economic growth since the mid 1990s has been astonishing but of course there can be no guarantee that the future will mirror the recent past. The UK's large trade deficit and high levels of household debt are worrying signs. But even if national economic growth were to

be sustained it would be foolish to rely on market forces alone to resolve the coalfields' remaining economic problems. The coalfields have come this far along the road to recovery in part because of the intensive practical support they have received from local authorities, development agencies, central government and the European Union. To finish the job, this support will need to be sustained a little while longer.

References

- Alcock, P., Beatty, C., Fothergill, S., Macmillan, R. and Yeandle, S. (2003) *Work to Welfare: how men become detached from the labour market*, CUP, Cambridge.
- Beatty, C. and Fothergill, S. (1996) 'Labour market adjustment in areas of chronic industrial decline: the case of the UK coalfields', *Regional Studies*, vol 30, pp 627-40.
- Beatty, C. and Fothergill, S. (1997) *Unemployment and the Labour Market in Rural Development Areas*, Rural Research Series no. 30, Rural Development Commission, London.
- Beatty, C. and Fothergill, S. (2004a) 'Economic change and the labour market in Britain's seaside towns', *Regional Studies*, vol 38, pp 461-480.
- Beatty, C. and Fothergill, S. (2004b) *The Diversion from 'Unemployment' to 'Sickness' Across British Regions and Districts*, CRESR, Sheffield Hallam University.
- Begg, I., Moore, B.C. and Rhodes, J. (1986) 'Economic and social change in urban Britain and the inner cities', in Hausner V. (ed) *Critical Issues in Urban Economic Development*, Clarendon Press, Oxford.
- Cambridge Economic Policy Group (1980) 'Urban and regional policy with provisional regional accounts for 1996-78', *Cambridge Economic Policy Review*, no 6.
- Cambridge Economic Policy Group (1982) 'Employment problems in the cities and regions of the UK: prospects for the 1980s', *Cambridge Economic Policy Review*, no 8.
- Gore, T., Dabinett, G. and Breeze, J. (1999) *Coalfields and the Lottery*, DCMS, London.
- Gore, T. and Smith, N. (2001) *Patterns of Educational Achievement in the British Coalfields*, research report 314, DfES, London.
- Rowthorn, R. (2004) *Combined and Uneven Development: reflections on the North-South divide*, paper presented to the HMT/DWP annual labour market issues seminar, London, October 2004.
- Turok, I. and Edge, N. (1999) *The Jobs Gap in Britain's Cities*, Policy Press, Bristol.

Appendix: data sources and methods

The Sheffield Hallam definition of the coalfields

The coalfields are defined here as those contiguous groups of wards where at least 10 per cent of the resident males in employment in 1981 were engaged in the energy and water sector (which in these areas overwhelmingly comprised coalmining). In practice this definition has been adjusted to include some wards that did not meet the 10 per cent threshold but which were largely or wholly surrounded by other coalfield wards. Also, in the Lancashire and North Staffordshire areas, where mining took place in a more urban context, some wards with slightly lower dependence on coal are included. Two isolated wards (in West Cumbria and Durham) meeting the 10 per cent criteria but separated from the main coalfields are excluded.

This definition is based on the coalfield labour market at a particular point in time, which is appropriate for a labour market study. It covers virtually all the mines working in 1981. It does however exclude a number of areas with weaker or more historic connections with the coal industry (for example in West Durham, West Cumbria, Lancashire and the Forest of Dean) that are legitimately included in other coalfield definitions.

Ward boundaries in 1991 (for 1991 Census data) and 2003 (for 2001 Census and other recent data) have been matched as closely as possible to the 1981 ward-based definition of each coalfield. This facilitates the use of data for different points in time on different ward boundaries.

Labour market accounts

The data for the labour market accounts for 1981-91 and 1991-2001 come overwhelmingly from the Census of Population. The data for the more recent 2001-04 period comes from a variety of sources and is inherently less reliable or comprehensive than Census data, for example because some elements are based on sample surveys such as the Labour Force Survey (LFS) and the Annual Business Inquiry (ABI). Additionally, some of the post-2001 data (eg from the LFS) is only available for districts or larger units. Figures for 2001 to 2004 are consequently subject to a greater margin of error than the figures for earlier years. The resulting distortion to the figures for the whole 1981-2004 period is however likely to be modest.

The labour market accounts for 1981-2004 are the summation of separate accounts for each of the three sub-periods (ie 1981-91, 1991-2001 and 2001-04). The detailed data sources and methods for each element of the labour market accounts are set out below.

JOB LOSS IN COAL

The figures for coal industry employment in 1981 and 1991 are taken from the Census of Population and refer to total employment in SIC 1.1. The figures for 2001 and 2004 are taken from Coal Authority data on coal industry employment by area. In all cases the figure refer to jobs actually located in the area, not employees living in the area.

NATURAL INCREASE IN THE WORKFORCE

This is the excess number of persons reaching working age (ie 16) over the number leaving the workforce through death or attainment of state pension age (65 for men, 60 for women).

For 1981-91 and 1991-2001 natural increase is calculated as the difference between the actual resident population of working age at the end of the period and the projected resident population of working age derived from a cohort survival model. Ten-year, district-level survival rates have been calculated for men using ONS Vital Statistics for local authority districts and the base-year resident population for each district. The appropriate district survival rates are applied to the male age structure at the start of each period (from the Census) of the coalfield wards in each district.

For the period after 2001, the same rate of natural increase as in 1991-2001 has been rolled forward to 2004. A comparison of population structures in the coalfields in 1991 and 2001, and the relative absence of volatility in trends in natural increase, suggest this assumption is acceptably robust.

NET IN-MIGRATION

This is the difference between the actual population of working age and the projected population of working age derived from the cohort survival model.

For 1991 and 2001 the actual population of working age in each coalfield is the sum of ward-level data from the Census of Population. An important complication arises from the treatment of students studying away from home. In the 1991 Census they were recorded at their home address; in 2001 they were recorded at their term-time address. To avoid distorting population change between the two dates, students studying away in 2001 have been added back into the population of their home area. Given the available Census data it is not possible to also remove students from the population of their term-time areas. However, the English coalfields have virtually no higher education establishments likely to give rise to distortions. The important exception is Keele University, which falls within a coalfield ward in North Staffordshire, and the figures for this area should therefore be treated with more caution than those for other areas. The effect of the inclusion of students at their term-time address is to boost estimated in-migration, to lower observed economic activity rates, and to raise the number of jobs recorded in the area in so far as students engage in part-time employment.

For 2001-04 the change in population used to estimate migration is based on the trend change in working age population between 2001 and 2003, shown by ONS mid-year population estimates, projected forward to 2004. This exercise uses the weighted average change in 34 'principal coalfield districts'. These include districts where most or all of the wards are classified as 'coalfield wards' (eg Barnsley,

Bolsover) but exclude those where coalfield wards comprise only a small part of a much larger district (eg Leeds).

INCREASE IN NET IN-COMMUTING

This is the difference between net in-commuting at the beginning and end of each period.

In practice, the coalfields have been substantial net exporters of commuters for many years so it is worth underlining that this part of the accounts only measures *change through time*. A negative increase in net in-commuting represents an increase in the net commuting outflow; a positive figure represents a reduction in the net outflow.

Net in-commuting is calculated by subtracting the number of residents in employment from the number of employed in the area (see below). For 1981, 1991 and 2001 the calculation is based on ward data from the Census of Population.

For 2001-04 the change in net commuting is calculated as the residual in the accounts.

INCREASE IN ECONOMICALLY ACTIVE

This is the addition to, or reduction in, labour supply resulting from change in the economic activity rate among persons of working age.

'Economic activity' includes the employed, self-employed, recorded unemployed and temporarily sick. For 1981, 1991 and 2001 the economic activity rate is taken from ward-level Census of Population data. The change in the economic activity rate is multiplied by the male population of working age at the end of each sub-period to provide an absolute number.

The change in economic activity rates between 2001 and 2004 is the weighted average change in the 34 principal coalfield districts, in each case based on four quarters' data from the LFS. The data for individual districts from the LFS tends to be unreliable because of sampling errors, but pooling observations for a number of districts and quarters gives a more reliable picture for the coalfields as a whole.

INCREASE IN EMPLOYMENT

This is the change in the number of jobs (including self-employed) located in coalfield wards.

The source for 1981, 1991 and 2001 is ward-level data from the Census of Population. Those with 'no fixed workplace' and 'workplace inadequately described' are included at their place of residence in each year.

The percentage change in employment between 2001 and 2004 is taken from ward-level data from the ABI (actually from the annual ABI surveys in December 2000 and December 2003). ABI employment levels differ in detail from those recorded by the Census because of the different treatment of the self-employed, double-jobbing, workers above and below normal working age and sampling error. For the coalfields as a whole, however, and for the larger individual coalfields, the ABI percentage

change nevertheless offers a reliable guide. The percentage change has been applied to the 2001 Census employment figure to generate an absolute number. A small additional adjustment has also been made to the figures for the Durham coalfield to take account of detailed boundary changes.

INCREASE IN RECORDED UNEMPLOYMENT

This is the change in the number of persons of working age recorded as unemployed.

For 1981, 1991 and 2001 the figures are taken from ward-level data in the Census of Population. The 1981 and 1991 Censuses counted everyone who was out-of-work and looking for work as 'unemployed'. The 2001 Census used the ILO measure of unemployment, counting those who were not only actively looking for work but also available for work. This difference in methods slightly reduces recorded unemployment in 2001 relative to earlier years. Both methods record substantially higher numbers of unemployed than the claimant count, which is based on benefit numbers, but exclude the jobless who have been diverted into economic inactivity.

In 1991 the numbers on government schemes were recorded separately but similar figures were not produced for 1981 or 2001. This reflects the smaller number on such schemes in 1981 and the fact in 2001 a higher proportion of government-supported trainees were with employers rather than on free-standing schemes. For 1991, men on government schemes (27,300 in all across the English and Welsh coalfields) have been added to the number of unemployed in their area of residence.

The 2004 figures are the number of claimant unemployed resident in coalfield wards in April 2004, grossed up by the ratio between Census and claimant unemployment by sex in 2001.

'RESIDUAL'

Calculating each component of the accounts separately generates a residual in the accounts as a whole, arising mainly from minor inconsistencies between different datasets. The residual is small – equivalent to well under 0.5 per cent of the working age population between 1991 and 2001 for example. For presentational purposes the residual is incorporated into the net commuting figures, which tend in any case to be subject to a wider margin of error than the other variables in the accounts because of the larger number of individual elements that feed into the commuting calculation.

In previous labour market accounts for the coalfields for 1981-91, presented in Beatty and Fothergill (1996), the residual was incorporated into the change in economic activity. The figures presented in this paper therefore differ a little from those published previously. The change makes no important difference to the findings.

Incapacity benefit data

The incapacity benefit data used in this paper comes from the Department for Work and Pensions (DWP). The data refers to men (and women) of working age who are out-of-work and in receipt of Incapacity Benefit, NI credits for incapacity, or Severe Disablement Allowance. Together, these comprise the non-employed group conventionally referred to by government as receiving 'incapacity benefits'. DWP produces estimates by ward based on a 5 per cent sample of all benefit claimants. Given the very large numbers claiming incapacity benefits, the ward-based estimates are likely to be tolerably reliable, especially when aggregated to larger units such as the coalfields.

Acknowledgements

This paper is the result of independent academic research. It does however draw on the findings of the authors' previous research funded by the Economic and Social Research Council (into coalfield labour markets and into male economic inactivity), by the East Midlands Observatory (on hidden unemployment) and more recently by English Partnerships (to up-date coalfield boundaries and data for England). The paper uses output from the Census of Population which is Crown Copyright and is reproduced with the permission of the Controller of HMSO.